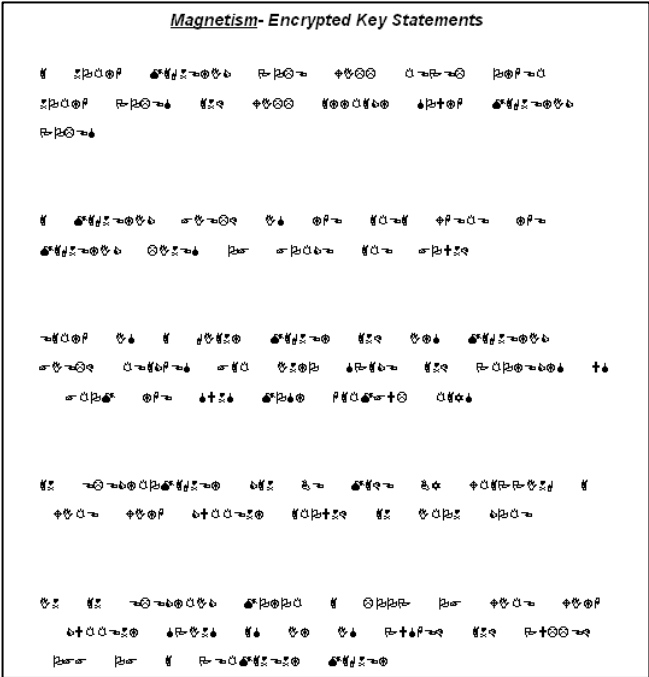


# Magnetism-Decode Encrypted Statements

From the moment you lay this handout in front of your students a challenge will be made- can you decode this “top secret” message without any help at all? After the panic dies down and students realize you’re serious, someone will take a chance on a word and guess right. From there it’s all downhill. This lesson is a fun change of pace from the norm, and an easy way to get students to pay close attention to key statements.

You can use this same idea any other time you wish, with any statements you wish. Type in your statements (all caps, no punctuation). Below are a few statements about magnetism you can use. After getting them typed in, select the font to change to (in this case \*Wingdings), and then check that the words are spaced out right before printing (none carry over from the end of a row onto the next).



A NORTH MAGNETIC POLE WILL REPEL OTHER NORTH  
POLES AND WILL ATTRACT SOUTH MAGNETIC POLES

A MAGNETIC FIELD IS THE AREA WHERE THE  
MAGNETIC LINES OF FORCE ARE FOUND

EARTH IS A GIANT MAGNET AND ITS MAGNETIC FIELD  
REACHES FAR INTO SPACE AND PROTECTS US FROM  
THE SUNS MOST HARMFUL RAYS

AN ELECTROMAGNET CAN BE MADE BY WRAPPING A  
WIRE WITH CURRENT AROUND AN IRON CORE

IN AN ELECTRIC MOTOR A LOOP OF WIRE WITH  
CURRENT SPINS AS IT IS PUSHED AND PULLED OFF  
OF A PERMANENT MAGNET

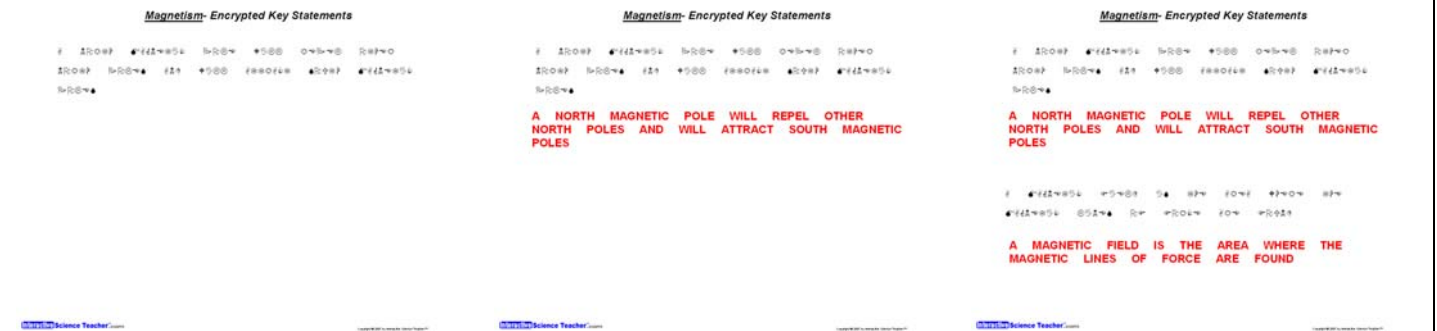
This is available as a ready-made Student Handout- see last page. There is also a PowerPoint you can use when going over the answers.

Tips:

- When you type, use all caps so there's no issue of what letter we're talking about. Sometimes, depending on the font you choose, a capitol and lower-case of the same letter can be different.
- Don't include any punctuation. It makes things so much easier when you can hand this to students and tell them they don't have to worry about commas and periods.
- Put 5 spaces in between each word so the symbols don't get too bunched up. Double space in between statements.
- The easiest font to change to is one called Wingdings. When your statements are all typed in, drag your mouse over all the text, select the font drop-down menu and select Wingdings.
- There are other "encryption" fonts you may find- give them a look, and just go with the one that has symbols that look the most different.

Come back and visit [InteractiveScienceTeacher.com](http://InteractiveScienceTeacher.com) to upgrade this lesson with:

**PowerPoint-** lead your students through the answers click-by-click



**Student Handout**

Magnetism- Encrypted Key Statements

! !000? #!11~00! ~000~ +000 0~0~0 000~0  
!000? ~000~! !2! +000 !000!0~ #000? #!11~00!  
~000~!

! #!11~00! ~000~ 0~ 00~ 000~ #200~ 00~  
#!11~00! 00!~! 0~ ~000~ 00~ ~000!

~000~ 0~ ! 000! #!11~00! !2! 00~ #!11~00!  
~000~ 000!~! ~0! 0!00~ #000~ !2! 000!~00! 0~  
~000~ 00~ #0! #0!~ 000!~00 000!

!2! ~000!~00!#!11~00! #!2! 00~ #!11~00! 0~ #00!~00! 0!  
+000~ +000~ #000!00! 000!~! !2! 000! ~000!

!2! !2! ~000!~00! #!000! ! 000! 0~ +000~ +000!  
#000!00! #00!~! !2! 00~ 0~ 00!~00! !2! 000!~00!  
000! 0~ ! 000!~00!~! #!11~00!

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**Answers to Handout**

ANSWERS- Encrypted Key Statements

A NORTH MAGNETIC POLE WILL REPEL OTHER NORTH POLES AND WILL ATTRACT SOUTH MAGNETIC POLES

A MAGNETIC FIELD IS THE AREA WHERE THE MAGNETIC LINES OF FORCE ARE FOUND

EARTH IS A GIANT MAGNET AND ITS MAGNETIC FIELD REACHES FAR INTO SPACE AND PROTECTS US FROM THE SUN'S MOST HARMFUL RAYS

AN ELECTROMAGNET CAN BE MADE BY WRAPPING A WIRE WITH CURRENT AROUND AN IRON CORE

IN AN ELECTRIC MOTOR A LOOP OF WIRE WITH CURRENT SPINS AS IT IS PUSHED AND PULLED OFF OF A PERMANENT MAGNET

Magnetism- Encrypted Key Statements

! !000? #!11~00! ~000~ +000 0~0~0 000~0  
!000? ~000~! !2! +000 !000!0~ #000? #!11~00!  
~000~!

! #!11~00! ~000~ 0~ 00~ 000~ #200~ 00~  
#!11~00! 00!~! 0~ ~000~ 00~ ~000!

~000~ 0~ ! 000! #!11~00! !2! 00~ #!11~00!  
~000~ 000!~! ~0! 0!00~ #000~ !2! 000!~00! 0~  
~000~ 00~ #0! #0!~ 000!~00 000!

!2! ~000!~00!#!11~00! #!2! 00~ #!11~00! 0~ #00!~00! 0!  
+000~ +000~ #000!00! 000!~! !2! 000! ~000!

!2! !2! ~000!~00! #!000! ! 000! 0~ +000~ +000!  
#000!00! #00!~! !2! 00~ 0~ 00!~00! !2! 000!~00!  
000! 0~ ! 000!~00!~! #!11~00!

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